

Application No. 10/021,080  
Response Dated 07/29/2005  
Reply to Office Action of 04/01/2005

PATENT  
Agent's Docket No. 11922-US

1. (amended) A network management and service provisioning environment comprising a framework for a network management and service provisioning system, the framework comprising including:
  - ~~a. an implementation of a single managed entity object class, the single managed entity object class being run-time derivable via type derivation into a hierarchy of managed entity object types minimizing the need to re-code and re-compile framework software application code in support of new managed entity object types;~~
  - a. a registry for run-time registration of at least one plug-in brokering access to network management and service provisioning enabling technologies, the plug-in having an associated lexical analyzer stub;
  - b. a parser for processing at least one self-contained managed data network entity specification;
  - ~~d.c.~~ an implementation of a single managed entity object class, the single managed entity object class being run-time derivable via type derivation into a hierarchy of managed data network object types based on a first parsed directive;
  - ~~e.d.~~ a generic lexical analyzer interpreting augmented with the lexical analyzer stub, the augmented lexical analyzer processing an t-least one-enabling technology specific second directive; and
  - ~~g.e.~~ an interpreter for processing messages received from at least one network management and service provisioning software application, the message including a third directive employed to invoke at least one method of a corresponding managed data network object instance;

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whereina separation is ~~bening~~ achieved between managed entities, enabling technologies and software applications, the separation enabling independent development, maintenance and troubleshooting ~~of in providing network management and service provisioning deployments solutions minimizing the need to re-code and re-compile framework code in support of new managed entity object types.~~

2. (amended) A framework as claimed in claim 1, wherein the single managed object class is an abstract managed entity object class.
3. (amended) A framework as claimed in claim 1, wherein ~~the a derived ation of the managed entity data network object type hierarchy~~ includes the specification of at least one attribute.
4. (amended) A framework as claimed in claim 1, wherein the at least one self contained managed data network entity specification includes a human readable file.
5. (amended) A framework as claimed in claim 4, wherein the human readable file is an attribute file holding attributes corresponding to a single managed entity object type.
6. (amended) A framework as claimed in claim 1, wherein the ~~at least one~~ first directive includes an attribute specification.
7. (amended) A framework as claimed in claim 6, wherein the attribute specification further specifies managed entity object type inheritance.
8. (amended) A framework as claimed in claim 1, wherein the network management and service provisioning enabling technologies include support for at least one of a persistence method and a persistence entity.

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9. (amended) A framework as claimed in claim 1, wherein the ~~at least one second~~ directive further specifies a command sequence to be followed in using a specific registered enabling technology.
10. (cancelled) ~~as claimed in claim 9, wherein the framework further comprises at least one registered enabling technology specific lexical analyzer stub for interpreting at least one enabling technology specific directive.~~
11. (amended) A network management and service provisioning apparatus ~~implementing~~ comprising the network management and service provisioning ~~environment~~ framework claimed in claim 1.
12. (amended) A method of ~~providing~~ effecting a network management and service provisioning ~~solution~~ the method comprising steps of:
  - ~~a. registering with a framework at least one plug-in brokering access to at least one network management and service provisioning enabling technology;~~
  - b.a. parsing at least one managed data network entity specification loaded by the framework;
  - b. deriving a single managed entity object class into a managed entity object type hierarchy of at least one managed data network object type via type derivation in accordance with a first directive parsed from the managed data network entity specification;
  - c. registering with a network management and service provisioning framework at least one plug-in brokering access to at least one network management and service provisioning enabling technology;

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d. augmenting a generic lexical analyzer with the lexical analyzer stub, the augmented lexical analyzer processing an enabling technology specific second parsed directive; and

d.e. processing at least one message received by the framework from at least one network management and service provisioning software application, the message including a third directive employed to invoke at least one operation of a corresponding managed data network object instance;

wherein the framework acting [[s]]-as an enabler by separating managed data network entities, enabling technologies and software applications, as well acting as a facilitator therebetween in providing the network management and service provisioning solution while minimizing the need to re-code and re-compile code in support of new managed entity object types.

13. (amended) A method as claimed in claim 12, wherein processing the at least one message received by the framework, the method comprises a further step of deriving a containment hierarchy of managed entity-data network object type instances corresponding to field installed data network equipment.
14. (amended) A method as claimed in claim 12, wherein registering ~~with the framework~~ at least one plug-in, the method further comprises a step of run-time registering the at least one plug-in.
15. (original) A method as claimed in claim 14, wherein run-time registering the at least one plug-in, the method further comprises a prior step of: selecting the at least one plug-in for registration thereof.

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16. (amended) A method as claimed in claim 12, wherein prior to parsing the at least one managed data network entity specification loaded by the framework, the method further comprises a step of: run-time loading the at least one managed data network entity specification.
17. (original) A method as claimed in claim 16, wherein run-time loading the at least one managed data network entity specification, the method further comprises a prior step of: selecting the at least one managed data network entity specification.
18. (amended) A method as claimed in claim 12, wherein parsing, the method further comprises a step of: extracting at least one directive ~~therefrom~~ the at least one managed data network entity specification, the at least one managed data network entity specification being associated with at least one managed entity object type.
19. (original) A method as claimed in claim 12, wherein deriving a the single managed entity object class via type derivation, the method further comprises a step of setting at least one attribute.
20. (original) A method as claimed in claim 12, wherein prior to processing the at least one message received by the framework from the at least one software application, the method further comprises a step of: registering the at least one software application with the framework.
21. (cancelled) ~~A method as claimed in claim 12, wherein processing the at least one message received by the framework; the method further comprises a step of: implementing a directive specified in the at least one managed data network entity specification using a lexical analyzer stub associated with the at least one plug-in.~~

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22. (amended) A method as claimed in claim ~~12-21~~, wherein implementing the third directive, the method further comprises a step of: instantiating managed entity object types.
23. (amended) A method as claimed in claim 21, wherein implementing the one of the second and the third directive the method further comprises a step of: effecting a change in a network state of a managed data transport network in a realm of management.
24. (original) A method as claimed in claim 12, wherein subsequent to processing the at least one message received by the framework; the method further comprises a step of: sending a message to the software application.